AMENDMENTS TO THE SPECIFICATION

Please replace paragraph 0034 beginning on page 8 of the Specification with the following rewritten paragraph:

Figure 1C is a diagram illustrating an example of a national broadcast system upon which embodiments of the present invention may be implemented. This basic example illustrates a system that may be used by one of the national networks. Here, the network 140 is the content provider. The network 140 generates content and uses it to modulate a carrier frequency for transmission from a satellite transmitter 130 to a satellite 135. The satellite 135 then retransmits the signal to a satellite receiver 145 at the local broadcaster 100. The local broadcaster then retransmits the content from a transmission antenna to a group of consumers ~~10~~ 110, 115, and 120 who then receive, demodulate and consume the content. Alternatively, the link between the network 140 and the local broadcaster 100 via the satellite transmitter 130, the satellite 135, and the satellite receiver 145 may be replaced by a direct, dedicated connection or a network connection such as an Asynchronous Transfer Mode (ATM) backbone or the Internet.

Please replace paragraph 0042 beginning on page 10 of the Specification with the following rewritten paragraph:

Figure 2 is a block diagram illustrating a high-level, conceptual view of a network for distributing, consuming, and modifying content based on user preferences according to one embodiment of the present invention. In this example, the system consists of a content provider 205, a broadcasting head-end system 215, and a receiver device 220. The system may also include a

Multiple Service Operator (MSO) 210 such as a cable broadcast system as described above with reference to figure 1D. This MSO 210 provides an interface between the content provider 205 and the head-end 215. However, the MSO 210 is optional, in that the content provider 205 may ~~if~~ in fact be an MSO 210 thereby eliminating the distinction.

Please replace paragraph 0044 beginning on page 11 of the Specification with the following rewritten paragraph:

The content data can then be sent ~~225~~ from the content provider 205 either to an MSO 210 or directly to a head end 215 via distribution networks 225 and 230. This transmission can be accomplished in at least two ways. One way is to send the data encapsulated in Internet Protocol (IP) packets over the Internet or an ATM backbone network to a router connected to an MSO or head-end. Another method is similar to that described above with reference to figure 1D. That is, like traditional cable systems the content provider 205 sends the data to a satellite to be beamed to multiple locations. An MSO 210 or head-end 215 will then receive the content provider's multiplex as a digital bitstream and re-multiplex this bitstream into another multiplex such as an MPEG2 multiplex to be sent to a head-end 210 or consumers via a distribution network 235. The method used depends on the exact application. If there are many points that the content provider will distribute to, satellite is better. If there are only a few points, an ATM backbone is better in terms of cost. In either case, the underlying technology is IP multicast. The content provider creates IP multicast bitstreams to be placed into another multiplex such as an MPEG2 transport.

Please replace paragraph 0045 beginning on page 12 of the Specification with the following rewritten paragraph:

The MSO 210, if used, receives ~~225~~ content from the content provider 205 and sends ~~230~~ it to a head-end 215. An MSO 210 can receive input ~~225~~ from multiple content providers 205, multiplex the content into a data stream and send the combined content to multiple head-ends 215. The head-end 215 typically receives an input 230 on a fiber optic cable from an MSO 210 or content provider 205 and provides an output 235 on a copper wire for distributing content to one or more consumers.

Please replace paragraph 0057 beginning on page 15 of the Specification with the following rewritten paragraph:

Figure 7 is a flowchart illustrating a playlist composition process according to one embodiment of the present invention. First, at processing block 705, related packages are grouped together based on package grouping criteria and the metadata within the individual packages. These groups are then encapsulated into a playlist including metadata identifying the group at processing block 710. As stated above, the groups created during the process are persistent and may be re-used in other playlists. Optionally, at processing block 715 all metadata in the playlist may be concatenated to form a new set of metadata. Finally, the resulting playlists are passed on to a scheduling process at processing block 720.

Please replace paragraph 0059 beginning on page 16 of the Specification with the following rewritten paragraph:

Figure 9 is block diagram illustrating a transmission composition process 900 according to one embodiment of the present invention. In this example, a transmission policy generation process 905 reads a playlist 910, playout policies 920, and details of available network resources 925 and generates a transmission policy 930. Playlist 910 may include one or more groups 915. In short, transmission policy is a description of how a playlist is to be played out by a transmission execution process. That is, the policy is a set of properties describing how the content should be transmitted over the delivery network to the consumers. A playlist 910 together with its transmission policy 930 is defined as a transmission. Transmissions contain knowledge regarding how, when, and what to play out.

Please replace paragraph 0065 beginning on page 18 of the Specification with the following rewritten paragraph:

Figure 11 is a block diagram illustrating a transmission execution process 1100 according to one embodiment of the present invention. The transmissions execution process 1100 performs the broadcast of packaged content to consumers. A transmission 1110, as generated by the transmission composition process described above, contains all of the information necessary for the transmission execution process to play out packages. As already discussed, the transmission 1110 includes a playlist 1115 and transmission policies 1120. Generally speaking, the transmission execution process ~~1100~~ 1105 reads the playlist 1115 and generates a number of transmission data

streams in accordance with the transmission policy 1120. According to one embodiment of the present invention, the transmission data streams can include an announcement data stream 1125, a metadata stream 1130, and a number of payload data streams ~~1135-1140~~ 1135 and 1140. The details of these data streams will be discussed below with reference to figures 13-15.

Please replace paragraph 0069 beginning on page 19 of the Specification with the following rewritten paragraph:

After the pre-show content discovery information 1305 has been sent, the announcement data stream 1310, the metadata stream 1315, and a number of payload data streams ~~1320-1350~~ 1320, 1325, 1330, 1335, 1340, 1345 and 1350 are sent. Payload data stream 1 1320 through payload data stream n 1350 represent various content data. As can be seen from the relative sizes of the various payload streams ~~1320-1350~~ 1320, 1325, 1330, 1335, 1340, 1345 and 1350, the content can be of varying size and duration during the timeslot. In this example, the bandwidth allocated to the various payload streams ~~1320-1350~~ 1320, 1325, 1330, 1335, 1340, 1345 and 1350 remains constant throughout the timeslot.

Please replace paragraph 0070 beginning on page 20 of the Specification with the following rewritten paragraph:

In this example, both the announcement data stream 1310 and metadata stream 1315 are sent concurrently with the payload data streams ~~1320-1350~~ 1320, 1325, 1330, 1335, 1340, 1345 and 1350 as in-band, real-time information. "In-band" refers to the fact that this information is

available within the same physical frequency as the data program. "Real-time" indicates that the information is available during the data program. This data describes the payload data streams as did the pre-show content discovery information 1305 and allows a receiver that tunes in to the data program after the pre-show content discovery information broadcast has been completed to identify content within the payload data streams so that the receiver can make a determination of which content to cache or present to the consumer. The announcement data stream 1310 is a reduced version of the pre-show content discovery data 1305. That is, the announcement data stream 1310 provides a description of a schedule of content to be broadcast during a transmission. According to one embodiment of the present invention, the announcement date stream 1310 is implemented with Session Announcement Protocol (SAP)/ Session Description Protocol (SDP).

Please replace paragraph 0071 beginning on page 20 of the Specification with the following rewritten paragraph:

The metadata stream 1315 is the descriptive metadata for the various payload data streams. Both the announcement data stream 1310 and the metadata stream 1315 may be sent in a reduced amount of bandwidth in relation to the payload data streams ~~1320-1350~~ 1320, 1325, 1330, 1335, 1340, 1345 and 1350 and the data within the announcement data stream 1310 and the metadata stream 1315 may be carouselled throughout the timeslot of the broadcast. In this manner, content discovery information is trickle streamed during the show or data program thereby allowing new users that tune in during the program to receive rich information about the program.

Please replace paragraph 0072 beginning on page 20 of the Specification with the following rewritten paragraph:

Figure 14 is a block diagram illustrating a transmission format according to an alternative embodiment of the present invention. As with the previous example, pre-show content discovery information 1405 is sent using the full bandwidth of the channel at the beginning of the broadcast. After the pre-show content discovery information 1405 has finished, an announcement data stream 1410 and a metadata stream 1415 are sent as in the previous example. However, in this example, the payload data streams ~~1420-1445~~ 1420, 1425, 1430, 1435, 1440 and 1445 are sent in series rather than in parallel as was the case in the previous example. That is, payload data stream 1 1420 is sent using all bandwidth that is not used by the announcement data stream 1410 and the metadata stream 1415. Then, payload data stream 2 1425 through payload data stream n 1445 are sent in a similar manner. This method may be particularly useful in a content distribution network where receivers cache content prior to providing it to a consumer rather than providing content in real-time.

Please replace paragraph 0073 beginning on page 21 of the Specification with the following rewritten paragraph:

Figure 15 is a block diagram illustrating a transmission format according to an alternative embodiment of the present invention. In this example, the pre-show content discovery information 1505, announcement data stream 1510, and the metadata stream 1515 are sent as described in the previous two examples. Payload data stream 1 1520 through n 1550 are sent in

parallel as described in the example illustrated by figure 13. However, the bandwidth allotted to payload data stream1 1520 does not remain constant. The bandwidth of this stream is reduced after some amount of time or the occurrence of some event. The bandwidth made available is then allotted to other payload data streams ~~1525-1535~~ 1525, 1530 and 1535.

Please replace paragraph 0074 beginning on page 21 of the Specification with the following rewritten paragraph:

Figure 16 is a block diagram illustrating a receiver system 1600 according to one embodiment of the present invention. A package reception application 1615 receives data streams broadcast via the network and filters the content based on user ~~preferences~~ profiles 1635 generated within the system. For example, a particular consumer may wish to view content related to sports but not classic movies. The receiver will therefore filter out the classic movies content but receive sports content. The filtered content can then be cached in a content cache 1620. At some later time, at the consumer's convenience, a content viewing application 1625 can present content stored in the cache 1620 to the consumer. Alternatively, the package reception application can provide filtered content directly 1630 to the content viewing application 1625 for immediate use by the consumer.